

**REMARKS**

Claims 1-23 were pending in the parent application as originally filed. By this Preliminary Amendment, claims 24-55 have been added to further define the present invention. No new matter has been added.

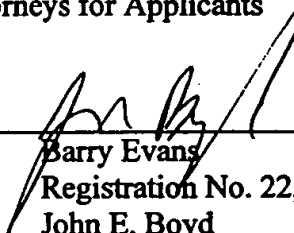
Enclosed is a check in the amount of \$327.00 for the thirty-two (32) additional claims in excess of twenty (20) and one (1) additional independent claim in excess of three (3). It is believed that no additional fee is deemed necessary for entry of this Preliminary Amendment and claims herewith. However, the Commissioner is hereby authorized to charge any additional fees required or debit any overpayment to Deposit Account No. 50-0297.

This Preliminary Amendment places the claims in better condition for examination and subsequent Notice of Allowance, the early notification of which is respectfully solicited.

Respectfully submitted,

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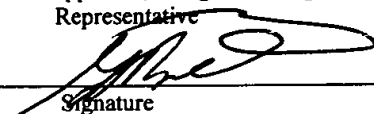
PATENT  
100647-03840

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants : Moy et al.  
Serial No. : 09/607,126  
Filed : June 29, 2000  
For : **PROCESS FOR PRODUCING SINGLE WALL  
NANOTUBES USING UNSUPPORTED METAL  
CATALYSTS AND SINGLE WALL NANOTUBES  
PRODUCED ACCORDING TO THIS METHOD**  
Art Unit : 1754  
Examiner : Stuart L. Hendrickson

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Patents, Washington, D.C. 20231, on  
August 20, 2002

Gerard Bilotto, Reg. No. P-51, 474  
Name of Applicant, Assignee or Registered  
Representative

  
Signature

August 20, 2002  
Date of Signature

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**AMENDMENT UNDER 37 CFR § 1.111**

**Marked up version**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

This is the marked up version of the specification and claims amended in response to the  
Official Action mailed February 22, 2002.

## IN THE SPECIFICATION

Pursuant to 37 C.F.R. 1.121(b)(1) please replace the following paragraphs as indicated; the changes for additions are underlined and deletions are in square brackets.

On page 2 of the specification, first full paragraph, lines 5-12:

Carbon fibrils were seen to originate from a metal catalyst particle which, in the presence of a hydrocarbon containing gas, became supersaturated in carbon. A cylindrical ordered graphitic core is extruded which immediately became coated with an outer layer of pyrolytically deposited graphite. These fibrils with a pyrolytic overcoat typically have diameters in excess of  $0.1\mu$ . [(Obelm, A. and Endo, M., J. Crystal Growth, 32:335-349 (1976). )] (Oberlin, A. and Endo, M., J. Crystal Growth, 32:335-349 (1976)).

On page 4 of the specification, first full paragraph, lines 4-11:

Multi-walled carbon nanotubes of a morphology similar to the catalytically grown fibrils described above have been grown in a high temperature carbon arc [(Iijima, Nature 354 56 1991)] (Iijima, Nature 354:56 1991). (Iijima also describes in a later publication arc-grown single-walled nanotubes having only a single layer of carbon arranged in the form of linear Fullerene.) It is now generally accepted [(Weaver, Science 265 1994)] (Weaver, Science 265: 1994) that these arc-grown nanofibers have the same morphology as the earlier catalytically grown fibrils of Tennet.

On page 5 of the specification, first full paragraph, lines 4-12:

Smalley (Thess, A., Lee, R., Nikolaev, P., Dai, H., Petit, P., Robert, J., Xu, C., Lee, Y.H., Kim, S.G., Rinzler, A.G., Colbert, D.T., Scuseria, G.E., Tonárek, D., Fischer, J.E.,

and Smalley, R.E., Science, **273**: 483-487 (1996)) also describes a process for production of single-walled carbon nanotubes in which a graphite rod containing a small amount of transition metal is laser vaporized in an oven at about  $[-1200^{\circ}\text{C}]$  1200°C. Single-wall nanotubes were reported to be produced in yields of more than 70%.

On page 5 of the specification, second full paragraph, lines 13-17:

Each of the techniques described above employs [(1)] solid carbon as the carbon feedstock. These techniques are inherently disadvantageous. Specifically, solid carbon vaporization via electric arc or laser apparatus is costly and difficult to operate on the commercial or industrial scale.

#### IN THE CLAIMS

14. (Amended) The method of claim 13, wherein said volatile iron compound is [ferrocene] ferrocene.

Respectfully submitted,

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EXHIBIT A

Preliminary Amendment  
and  
copy of check

(filed June 29, 2000)

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